

## **Estimation of biomass and vegetation growth on the reclaimed mine sites in Eastern Kentucky**

This ongoing study explores land cover change in active mining and reclaimed areas in 2001 and 2011 in Kentucky's Appalachian counties. As a part of the study Lidar data is used to estimate the forest area and height of canopy. The LandSat images taken in 2001 and 2011 were used to derive vegetation indices related to biomass measurements. An attempt is made to measure biomass of the forest using the Division of Forestry, Kentucky, provided Forestry inventory data and the indices measured using remote sensing data. This derived information will be used to estimate changes in the vegetation due to mining activities.

Key words: Appalachian, Coal mining, Land Cover, LiDAR, Reclamation, Biomass.

Topic Area: Renewal Energy, Natural Resources and Environment

Authors: Tilak Shrestha\*, Buddhi Gyawali, Jeremy Sandifer, Ken Bates

Organization: College of Agriculture, Food Science, and Sustainable Systems, Kentucky State University

Contact Info: Kentucky State University

Coop Ext Bldg., 400 East Main Street,

Frankfort, Ky 40601

[tilak.shresta@kysu.edu](mailto:tilak.shresta@kysu.edu)

256-970-9112